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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/013,067	12/07/2001	Dan Sanchez	155695-0221	8579

1622 7590 03/10/2004  
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EXAMINER

MARC, MCDIEUNEL

ART UNIT PAPER NUMBER

3661

DATE MAILED: 03/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/013,067

Applicant(s)

SANCHEZ ET AL.

Examiner

McDieunel Marc

Art Unit

3661

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 7/11/2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-35 and 39-42 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 39-42 is/are allowed.
- 6) ☒ Claim(s) 1,3,6,8,11,13,16,18,21-25,27,30,32 and 35 is/are rejected.
- 7) ☒ Claim(s) 2,4,5,7,9,10,12,14,15,17,19,20,26,28,29,31,33 and 34 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

1. Claims 1-35 and 39-42 are pending in the application.
2. The indicated allowability of claims 1-35 and 39-42 is withdrawn in view of the newly discovered reference(s) to U.S. Pat. No. 6,424,885 and U.S. Pat. No. 6,580,969. Rejections based on the newly cited reference(s) follow.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1, 3, 6, 8, 11, 13, 16, 18, 21-25, 27, 30, 32 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Niemeyer *et al.*** (U.S. Pat. No. **6,424,885 B1**) in view of **Ishida *et al.*** (U.S. Pat. No. **6,580,969 B1**).

As per claims 1, 6, 11, 16, 21, 25, 30, 35, Niemeyer *et al.* teaches substantially a system and an associated method including a robotic master handle assembly that has only five degrees of freedom (see col. 5, line 29), comprising: a spinning handle (see col. 19, lines 50-52); a wrist joint coupled to said handle (see col. 10, line 66 – to – col. 11, line -9); a translator that is coupled to said wrist joint (see fig. 6c); a medical instrument (see fig. 1B); said wrist means and said handle means, to move said medical instrument (see figs. 3-5 and 10); said medical instrument pivots about a pivot point located at an incision of a patient (inherently, operation on living body involves incision). Niemeyer *et al.* does not specifically teach an elbow joint; and a shoulder joint coupled to said elbow joint.

Ishida *et al.* teaches an elbow joint (see col. 10, 52 and fig. 5, elements 82R/L); and a shoulder joint coupled to said elbow joint (see col. 10, lines 51-61 and fig. 5, elements 85R/L).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the surgical robot of Niemeyer *et al.* with the robot type of Ishida *et al.*, because this modification would have enhanced the surgical robot or Niemeyer *et al.* in order to show clear evidence of elbow joint and shoulder, thereby improving the efficiency and the reliability of the microwrist system for surgical procedures.

As per claims Niemeyer et al. 3, 8, 13, 18, 27, 32, teaches a system and an associated method including an assembly of claim 1, wherein said handle includes a grasper that is coupled to a handle housing, said grasper includes a pair of grooves and said handle housing includes a groove (see fig. 3).

As per claims 22, 23 and 24, Niemeyer et al. teaches a method of claim 21, wherein rotating the handle spins a medical instrument (see figs. 3 and 5). With respect to claim 23, teaches a method of claim 21, wherein rotating the handle about the wrist axis moves a medical instrument (see figs. 3 and 5). With respect to claim 24, teaches a method of claim 21, wherein moving the wrist and handle along the translation axis moves a medical instrument (see figs. 3 and 5).

***Allowable Subject Matter***

6. Claims 39-42 are allowed.

The prior art of record fail to teach or fairly suggest with respect to claim 39, teaches a master robotic handle assembly that has only five degrees of freedom, comprising: a handle; a first joint that provides a first degree of freedom for said handle; a second joint that provides a second degree of freedom for said handle; a third joint that provides a third degree of freedom for said handle; a fourth joint that provides a fourth degree of freedom for said handle; and, a fifth joint that provides a fifth degree of freedom for said handle. With respect to claim 40, teaches a master robotic handle assembly that has only five degrees of freedom, comprising: a handle; first means for providing said handle with a first degree of freedom; second means for providing said

handle with a second degree of freedom; third means for providing said handle with a third degree of freedom; fourth means for providing said handle with a fourth degree of freedom; and, fifth means for providing said handle with a fifth degree of freedom.

Although, with respect to claim 41, Niemeyer *et al.* teaches a robotic system that has only five degrees of freedom (see fig. 1B), comprising: a robotic arm (see fig. 1B, element 10); a medical instrument which has an end effector that can move in a first direction (see fig. 1B), a second direction, a third direction, a fourth direction and a fifth direction (see fig. 1, and col. 5, lines 29-31), but fail to teach or fairly suggest a handle that has a first degree of freedom that corresponds to movement of said end effector in the first direction, a second degree of freedom that corresponds to movement of said end effector in the second direction, a third degree of freedom that corresponds to movement of said end effector in the third direction, a fourth degree of freedom that corresponds to movement of said end effector in the fourth direction, and a fifth degree of freedom that corresponds to movement of said end effector in the fifth direction. And with respect to claim 42, Niemeyer *et al.* teaches a method for operating a robotic system that has only five degrees of freedom (see fig. 1B), but fail to teach or fairly suggest moving a handle about a first degree of freedom to move an end effector of a medical instrument in a first direction; moving the handle about a second degree of freedom to move the end effector in a second direction; moving the handle about a third degree of freedom to move the end effector in a third direction; moving the handle about a fourth degree of freedom to move the end effector in a fourth direction; and, moving the handle about a fifth degree of freedom to move the end effector in a fifth direction.

7. Claims 2, 4, 5, 7, 9, 10, 12, 14, 15, 17, 19, 20, 26, 28, 29, 31, 33 and 34 are objected to as being dependent upon a rejected base claim, but would be allowable if

rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record fail to teach or fairly suggest with respect to claims 2, 7, 12, 17, 26, 31, wherein said handle is manipulated by a user's hand that has a centroid located between a thumb, an index finger and a middle finger, said wrist joint allows said handle to rotate about a wrist axis that intersects the roll axis at the centroid of the user's hand. With respect to claim 4, 9, 14, 19, 28, 33, teaches an assembly, wherein said grasper includes a switch. With respect to claims 5, 10, 15, 20, 29, 34, teaches an assembly, wherein said handle housing includes a plurality of buttons.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to McDieunel Marc whose telephone number is (703) 305-4478. The examiner can normally be reached on 6:30-5:00 Mon-Thu.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William A. Cuchlinski, Jr. can be reached on (703) 308-3873. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



McDieunel Marc

Thursday, March 04, 2004

MM/



Supervisor, William A. Cuchlinski, Jr.

WILLIAM A. CUCHLINSKI, JR.  
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